

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner
 US Department of Commerce
 United States Patent and Trademark
 Office, PCT
 2011 South Clark Place Room
 CP2/5C24
 Arlington, VA 22202
 ETATS-UNIS D'AMERIQUE
 in its capacity as elected Office

Date of mailing (day/month/year) 12 February 2001 (12.02.01)	
International application No. PCT/EP00/05899	Applicant's or agent's file reference A-22042/PCT/A/CGM499
International filing date (day/month/year) 26 June 2000 (26.06.00)	Priority date (day/month/year) 02 July 1999 (02.07.99)
Applicant KRAMER, Andreas et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:
07 December 2000 (07.12.00)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was

☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Olivia TEFY Telephone No.: (41-22) 338.83.38
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PATENT COOPERATION TREATY

PCT

NOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

CIBA SPECIALTY CHEMICALS HOLDING
INC.
Patentabteilung
Klybeckstrasse 141
CH-4057 Basel
SUISSE

Date of mailing (day/month/year)

07 February 2002 (07.02.02)

Applicant's or agent's file reference

A-22042/PCT/A/CGM499

IMPORTANT NOTIFICATION

International application No.

PCT/EP00/05899

International filing date (day/month/year)

26 June 2000 (26.06.00)

1. The following indications appeared on record concerning:

☒ the applicant ☒ the inventor ☐ the agent ☐ the common representative

Name and Address

ZINK, Marie-Odile
65, rue de Brunstatt
F-68200 Mulhouse
France

State of Nationality

FR

State of Residence

FR

Telephone No.

Facsimile No.

Teleprinter No.

2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

☐ the person ☐ the name ☒ the address ☐ the nationality ☐ the residence

Name and Address

ZINK, Marie-Odile
104, rue de Cernay
F-68700 Steinbach
France

State of Nationality

FR

State of Residence

FR

Telephone No.

Facsimile No.

Teleprinter No.

3. Further observations, if necessary:

4. A copy of this notification has been sent to:

☒ the receiving Office ☐ the designated Offices concerned
☐ the International Searching Authority ☒ the elected Offices concerned
☒ the International Preliminary Examining Authority ☐ other:The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer

R. Chrem

Telephone No.: (41-22) 338.83.38

PATENT COOPERATION TREATY

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NOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

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SUISSE

Date of mailing (day/month/year) 07 February 2002 (07.02.02)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference A-22042/PCT/A/CGM499	
International application No. PCT/EP00/05899	International filing date (day/month/year) 26 June 2000 (26.06.00)

1. The following indications appeared on record concerning:		
<input checked="" type="checkbox"/> the applicant	<input checked="" type="checkbox"/> the inventor	<input type="checkbox"/> the agent <input type="checkbox"/> the common representative
Name and Address KRAMER, Andreas Bundtels 3 CH-3186 Düringen Switzerland	State of Nationality CH	State of Residence CH
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	
2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:		
<input type="checkbox"/> the person	<input type="checkbox"/> the name	<input checked="" type="checkbox"/> the address <input type="checkbox"/> the nationality <input type="checkbox"/> the residence
Name and Address KRAMER, Andreas Rue Oscar-Patthey 45 CH-3280 Meyriez Switzerland	State of Nationality CH	State of Residence CH
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	
3. Further observations, if necessary:		
4. A copy of this notification has been sent to:		
<input checked="" type="checkbox"/> the receiving Office	<input type="checkbox"/> the designated Offices concerned	
<input type="checkbox"/> the International Searching Authority	<input checked="" type="checkbox"/> the elected Offices concerned	
<input checked="" type="checkbox"/> the International Preliminary Examining Authority	<input type="checkbox"/> other:	

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer R. Chrem
Facsimile No.: (41-22) 740.14.35	Telephone No.: (41-22) 338.83.38

PATENT COOPERATION TREATY

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NOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

CIBA SPECIALTY CHEMICALS HOLDING
INC.
Patentabteilung
Klybeckstrasse 141
CH-4057 Basel
SUISSE

Date of mailing (day/month/year) 07 February 2002 (07.02.02)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference A-22042/PCT/A/CGM499	
International application No. PCT/EP00/05899	International filing date (day/month/year) 26 June 2000 (26.06.00)

1. The following indications appeared on record concerning:		
<input checked="" type="checkbox"/> the applicant	<input checked="" type="checkbox"/> the inventor	<input type="checkbox"/> the agent
<input type="checkbox"/> the common representative		
Name and Address WUNDERLICH, Wiebke Bahnhofstrasse 25a D-64404 Bickenbach Germany	State of Nationality DE	State of Residence DE
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	
2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:		
<input type="checkbox"/> the person	<input type="checkbox"/> the name	<input checked="" type="checkbox"/> the address
<input type="checkbox"/> the nationality		
<input type="checkbox"/> the residence		
Name and Address WUNDERLICH, Wiebke Via Valdossola 28 I-40134 Bologna Italy	State of Nationality DE	State of Residence IT
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	
3. Further observations, if necessary:		
4. A copy of this notification has been sent to:		
<input checked="" type="checkbox"/> the receiving Office	<input type="checkbox"/> the designated Offices concerned	
<input type="checkbox"/> the International Searching Authority	<input checked="" type="checkbox"/> the elected Offices concerned	
<input checked="" type="checkbox"/> the International Preliminary Examining Authority	<input type="checkbox"/> other:	

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer R. Chrem
Facsimile No.: (41-22) 740.14.35	Telephone No.: (41-22) 338.83.38

PATENT COOPERATION TREATY

WO 01/02345
PCT/EP00/05899

AL

From the INTERNATIONAL BUREAU

PCT

NOTICE INFORMING THE APPLICANT OF THE COMMUNICATION OF THE INTERNATIONAL APPLICATION TO THE DESIGNATED OFFICES

(PCT Rule 47.1(c), first sentence)

To:

CIBA SPECIALTY CHEMICALS HOLDING INC.
Patentabteilung
Klybeckstrasse 141
CH-4057 Basel
SUISSE

Ressort P/TM/SI	LE 5
18. Jan. 2001	
PATA	FATH

Date of mailing (day/month/year) 11 January 2001 (11.01.01)		IMPORTANT NOTICE	
Applicant's or agent's file reference A-22042/PCT/A/CGM499			
International application No. PCT/EP00/05899	International filing date (day/month/year) 26 June 2000 (26.06.00)	Priority date (day/month/year) 02 July 1999 (02.07.99)	
Applicant CIBA SPECIALTY CHEMICALS HOLDING INC. et al			

(=EP/p1)

- Notice is hereby given that the International Bureau has communicated, as provided in Article 20, the international application to the following designated Offices on the date indicated above as the date of mailing of this Notice:
AG,AU,DZ,KP,KR,MZ,US

In accordance with Rule 47.1(c), third sentence, those Offices will accept the present Notice as conclusive evidence that the communication of the international application has duly taken place on the date of mailing indicated above and no copy of the international application is required to be furnished by the applicant to the designated Office(s).

- The following designated Offices have waived the requirement for such a communication at this time:
AE,AL,AM,AP,AT,AZ,BA,BB,BG,BR,BY,CA,CH,CN,CR,CU,CZ,DE,DK,DM,EA,EE,EP,ES,FI,GB,GD,GE,GH,GM,HR,HU,ID,IL,IN,IS,JP,KE,KG,KZ,LC,LK,LR,LS,LT,LU,LV,MA,MD,MG,MK,MN,MW,MX,NO,NZ,OA,PL,PT,RO,RU,SD,SE,SG,SI,SK,SL,TJ,TM,TR,TT,TZ,UA,UG,UZ,VN,YU,ZA,ZW
The communication will be made to those Offices only upon their request. Furthermore, those Offices do not require the applicant to furnish a copy of the international application (Rule 49.1(a-bis)).
- Enclosed with this Notice is a copy of the international application as published by the International Bureau on 11 January 2001 (11.01.01) under No. WO 01/02345

REMINDER REGARDING CHAPTER II (Article 31(2)(a) and Rule 54.2)

If the applicant wishes to postpone entry into the national phase until 30 months (or later in some Offices) from the priority date, a demand for international preliminary examination must be filed with the competent International Preliminary Examining Authority before the expiration of 19 months from the priority date.

It is the applicant's sole responsibility to monitor the 19-month time limit.

Note that only an applicant who is a national or resident of a PCT Contracting State which is bound by Chapter II has the right to file a demand for international preliminary examination.

REMINDER REGARDING ENTRY INTO THE NATIONAL PHASE (Article 22 or 39(1))

If the applicant wishes to proceed with the international application in the national phase, he must, within 20 months or 30 months, or later in some Offices, perform the acts referred to therein before each designated or elected Office.

For further important information on the time limits and acts to be performed for entering the national phase, see the Annex to Form PCT/IB/301 (Notification of Receipt of Record Copy) and Volume II of the PCT Applicant's Guide.

The International Bureau of WIPO 34, chemin des Clémentines 1211 Geneva 20, Switzerland	Authorized officer J. Zahra
Facsimile No. (41-22) 740.14.35	Telephone No. (41-22) 338.83.38

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
11 January 2001 (11.01.2001)

PCT

(10) International Publication Number
WO 01/02345 A3

(51) International Patent Classification⁷: C07C 239/20,
C07D 211/94, C08F 4/00

(21) International Application Number: PCT/EP00/05899

(22) International Filing Date: 26 June 2000 (26.06.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
99810567.0 2 July 1999 (02.07.1999) EP

(71) Applicant (for all designated States except US): CIBA
SPECIALTY CHEMICALS HOLDING INC. [CH/CH];
Klybeckstrasse 141, CH-4057 Basel (CH).

(72) Inventors; and

(75) Inventors/Applicants (for US only): KRAMER, An-
dreas [CH/CH]; Bundtels 3, CH-3186 Düringen (CH).
NESVADBA, Peter [CH/CH]; Route des Pralettes 83 A,

CH-1723 Marly (CH). ZINK, Marie-Odile [FR/FR]; 65,
rue de Brunstatt, F-68200 Mulhouse (FR). WUNDER-
LICH, Wiebke [DE/DE]; Bahnhofstrasse 25a, D-64404
Bickenbach (DE).

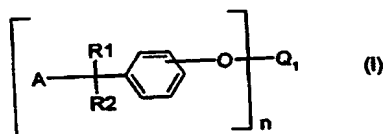
(74) Common Representative: CIBA SPECIALTY CHEMI-
CALS HOLDING INC.; Patentabteilung, Klybeckstrasse
141, CH-4057 Basel (CH).

(81) Designated States (national): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE,
DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU,
ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS,
LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO,
NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR,
TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

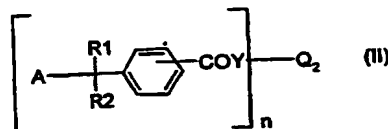
(84) Designated States (regional): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian
patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European
patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE,
IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG,
CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

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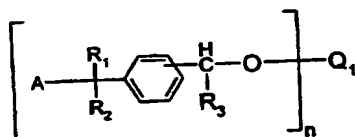
(54) Title: MONO AND MULTIFUNCTIONAL ALKOXYAMINES FOR THE PREPARATION OF FUNCTIONALIZED
MACROMERS



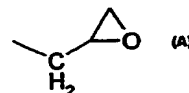
(I)



(II)



(III)



(A)

WO 01/02345 A3 (57) Abstract: The invention pertains to a compound of formula (I), (II) or (III) wherein R₁ and R₂ are independently of each other hydrogen, C₁-C₁₈alkyl, C₃-C₁₈alkenyl, C₃-C₁₈alkinyl or phenyl which are unsubstituted or substituted by NO₂, halogen, amino, hydroxy, cyano, carboxy, C₁-C₄alkoxy, C₁-C₄alkylthio, C₁-C₄alkylamino or di(C₁-C₄alkyl)amino; A is a group capable of forming a stable free nitroxyl radical A_•, which is bound via its oxygen atom to the carbon atom; Y is O, NR₃ or CHR₃-X_n, wherein X_n is O, S or NR₃; R₃ is hydrogen, C₁-C₁₈alkyl, C₃-C₁₈alkenyl, C₃-C₁₈alkinyl or phenyl which are unsubstituted or substituted by NO₂, halogen, amino, hydroxy, cyan, carboxy, C₁-C₄alkoxy, C₁-C₄alkylthio, C₁-C₄alkylamino or di(C₁-C₄alkyl)amino; Q₁ is an organic or inorganic radical, derived from a compound having at least one functional group being capable of reacting with a hydroxy group; Q₂ is an organic radical derived from a mono or polyfunctional alcohol, mono or polyfunctional aminoalcohol, mono or polyfunctional amine mono or polyfunctional mercaptane, mono or polyfunctional phenol or mono or polyfunctional thiophenol; and n is a number from 1 to 20; with the provision that in formula (I) if n is 1, Q₁ is not (a), or if n is 2, R₁ is H, and R₂ is -CH₂-O-tert.butyl, A is not 2,2,6,6-tetramethylpiperidine or 2,2,6,6-tetramethylpiperidine-4-carboxylic acid. Further subjects of the invention are a composition comprising above compounds and at least one ethylenically unsaturated monomer, process for polymerization and the (co)polymers obtained therefrom.



Published:

— with international search report

(88) Date of publication of the international search report:
19 July 2001

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

01 OCT 2001

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)



Applicant's or agent's file reference A-22042/PCT/A/CGM499	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/EP00/05899	International filing date (day/month/year) 26/06/2000	Priority date (day/month/year) 02/07/1999
International Patent Classification (IPC) or national classification and IPC C07C69/753		
Applicant CIBA SPECIALTY CHEMICALS HOLDING et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 7 sheets, including this cover sheet.
☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☒ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☒ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 07/12/2000	Date of completion of this report 27.09.2001
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Janus, S Telephone No. +49 89 2399 8333 

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/EP00/05899

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, pages:

1-59 as originally filed

Claims, No.:

1-26 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/EP00/05899

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

- ☐ the entire international application.
- ☒ claims Nos. 1-26 (all in part).

because:

- ☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):
 - ☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):
 - ☒ the claims, or said claims Nos. 1-26 (all in part) are so inadequately supported by the description that no meaningful opinion could be formed.
 - ☒ no international search report has been established for the said claims Nos. 1-26 (all in part).
2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:
- ☐ the written form has not been furnished or does not comply with the standard.
 - ☐ the computer readable form has not been furnished or does not comply with the standard.

IV. Lack of unity of invention

1. In response to the invitation to restrict or pay additional fees the applicant has:

- ☐ restricted the claims.
- ☐ paid additional fees.
- ☐ paid additional fees under protest.
- ☐ neither restricted nor paid additional fees.

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/EP00/05899

2. ☒ This Authority found that the requirement of unity of invention is not complied and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is
- ☐ complied with.
- ☐ not complied with for the following reasons:
4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this report:
- ☐ all parts.
- ☒ the parts relating to claims Nos. 1-3, 5-7, 10-26.

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	
	No:	Claims	1-3, 5-7, 10-26
Inventive step (IS)	Yes:	Claims	
	No:	Claims	1-3, 5-7, 10-26
Industrial applicability (IA)	Yes:	Claims	1-3, 5-7, 10-26
	No:	Claims	

2. Citations and explanations
see separate sheet

VI. Certain documents cited

1. Certain published documents (Rule 70.10)

and / or

2. Non-written disclosures (Rule 70.9)

see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:
see separate sheet

Concerning Section III

Apart from the remark on the limitation of the search made by the International Searching Authority (ISA), the International Preliminary Examining Authority (IPEA) wishes to point out that the claimed scope is only very partially supported by the actual examples of the application, contrary to Art. 6 PCT.

Concerning Section IV

For the record, the IPEA wishes to express its agreement with the position taken on unity by the ISA in Form PCT/ISA/206 (extra sheet) mailed on 09/11/2000. Since, however, the applicant has not paid the additional search fees, no examination can be carried out on the second and third inventions defined therein.

Concerning Section V

A. Novelty

1. The following documents cited in the search report all disclose novelty-destroying material for at least some of the present claims. Your attention is in particular drawn towards the specific parts indicated.
 - * US-A-5,627,248 (D1) and US-A-5,677,388 (D2) : see compounds (1), (7), (8), (24) and (25).
 - * Ahn, Kwang-Hyun & Kim, Younghun, Synthetic Communications, 29(24), 4361-4366 (1999) (D3) : see compound 2f.
 - * Sugimoto, N. & Kakuchi, T. Polymer preprints 40(1), 111-112 (1999) (D4) : see compounds 1 and 2.
 - * Li, I.Q. et al., Polymer preprints, 40(1), 383-384 (1999) (D5) : see compound II.
 - * Miura, Y et al., Macromolecules 31(14), 4659-4661 (1998) (D6) : see compound 3f.
 - * Li, I.Q. et al., Polymer preprints, 39(2), 598-599 (1998) (D7) . see the compounds designated as ACEBTM and ACSTTM.
 - * Dao, J. et al., J. Polym. Sci., part A : Polym. Chem., 36(12), 2161-2167 (1998) (D8) : see compounds 7e, 7i, 7j and 7n.

- * Druliner, J.D., Journal of Physical Organic Chemistry, 8(4), 316-324 (1995) (D9) : see compound used in rum 14 of table 1, and runs 18 and 19 of table 5.
- It must be pointed out that all compounds are said to be useful as polymerisation initiators; in this light, these disclosures are not only relevant to the compound claims 1-16, but also to claims 17-26. In addition, the ISA has pointed out that further compounds belonging to the subject-matter of claims 1-16 are known in the art, albeit for a different use.

Therefore, the claimed subject-matter can by no means be regarded as novel (Art. 33.2 PCT).

B. Inventive step

It is not at present possible to determine on what basis an inventive step could possibly be acknowledged, especially in the light of the fact that all compounds mentioned above are polymerisation initiators. Should the applicant decide to pursue the present application in the national/regional phase, then he would have to determine one characterising feature (or combination thereof) of the claimed subject-matter, and to demonstrate the presence of an effect due to said feature in comparison with the prior art as represented by D1-D9.

Concerning Section VI

Attention is drawn towards documents WO-A-99/46261 (D10), published 16/09/1999 and GB-A-2342649 (D11), published 19/04/2000. Both documents were published after the priority date of the present application, but before its international filing date, and both enjoy a priority date earlier than that of the application. Depending on national/regional regulations, their content might need to be regarded as belonging to the relevant prior art.

Attention is also drawn to the fact that one of the inventors of D10 and all three inventors of D11 are designated as inventors in the present application. This might also have implications on the validity of the priority of the present application, and therefore on its "relevant date".

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/EP00/05899

Under such circumstances, all documents designated as "P" in the search report might need to be taken into account for the assessment of novelty and/or inventive step.

Concerning Section VII

Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D3-D11 is not mentioned in the description, nor are these documents identified therein.

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference A-22042/PCT/A/CGM499	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/EP 00/05899	International filing date (day/month/year) 26/06/2000	(Earliest) Priority Date (day/month/year) 02/07/1999
Applicant CIBA SPECIALTY CHEMICALS HOLDING		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 7 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☒ **Certain claims were found unsearchable** (See Box I).

3. ☒ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☒ **None of the figures.**

INTERNATIONAL ARCH REPORT

International application No.
PCT/EP 00/05899

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☒ Claims Nos.: 1-3, 5-7, 10-26 (all in part)
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
1-3,5-7,10-26 (all in part)

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-3, 5-7, 10-26 (all in part)

Compounds of formulae (I) and (IV), polymerisable compositions containing them, a process for preparing (co)oligomers or (co)polymers using them, their use in said process and the resulting polymers.

2. Claims: 1 (in part), 3 (in part), 4, 5 (in part), 8, 9, 10-26 (in part)

Compounds of formulae (II), (V) and (VI), polymerisable compositions containing them, a process for preparing (co)oligomers or (co)polymers using them, their use in said process and the resulting polymers.

3. Claims: 1-3, 5-7, 10-26 (all in part)

Compounds of formulae (III) and (VII), polymerisable compositions containing them, a process for preparing (co)oligomers or (co)polymers using them, their use in said process and the resulting polymers.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Claims Nos.: 1-3, 5-7, 10-26 (all in part)

Due to the breadth of the expressions included mainly in the definitions for groups A, Q1 and Q2, the initial phase of the search revealed a very large number (over 100 for the first invention) of documents relevant to the issue of novelty. So many documents were retrieved that it is impossible to determine which parts of the claim(s) may be said to define subject-matter for which protection might legitimately be sought (Article 6 PCT). For these reasons, a meaningful search over the whole breadth of the claim(s) is impossible. Consequently, the search has been restricted to compounds useful as polymerisation initiators.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

INTERNATIONAL SEARCH REPORT

 International Application No
 PC1, 00/05899

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07C239/20 C07D211/94 C08F4/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07C C07D C08F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, CHEM ABS Data, BEILSTEIN Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 627 248 A (KOSTER ROBERT A ET AL) 6 May 1997 (1997-05-06) cited in the application examples 1,7,8,24,25 ---	1-26
X	US 5 677 388 A (KOSTER ROBERT A ET AL) 14 October 1997 (1997-10-14) cited in the application examples 1,7,8,24,25 ---	1-26
X	KWANG-HYUN AHN, YOUNGHUN KIM: "Oxidation of enolate anion by hypervalent iodine compounds :...." SYNTHETIC COMMUNICATIONS, vol. 28, no. 4, 1999, pages 4361-4366, XP000942767 example 2F --- -/--	1-26

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

30 October 2000

Date of mailing of the international search report

23.01.01

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INTERNATIONAL SEARCH REPORT

 international application No
 PCT/JP 00/05899

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	NAOYA SUGIMOTO AND TOYOJI KAKUCHI: "Synthesis of well-defined End-Functionalised Poly(styrene)s with Mono and Disaccharides by Controlled Radical Polymerisation using TEMPO-based Initiators having Glucose and Maltose Residues" POLYMER PREPRINTS, vol. 40, no. 1, 1999, pages 111-112, XP000942769 examples 1,2 ---	1-26
X	LI, IRENE Q. ET AL.: "PS-BL-PC-BL-PS using Tandem Radical-step Growth Polymerisation" POLYMER PREPRINTS, vol. 40, no. 1, 1999, pages 383-384, XP000942772 example II ---	1-26
X	YOZO MIURA ET AL.: "High-Yield Synthesis of Alkoxyamine Initiators Carrying a Functional Group by reaction of Ethylbenzenes with Di-tert-butyl Diperoxalate in the presence of Nitroxides" MACROMOLECULES, vol. 31, no. 14, 1998, pages 4659-4661, XP000942302 example 3F ---	1-26
X	LI, IRENE Q. ET AL.: "Dual Functional Initiators for Tandem Radical and Step Polymerisation" POLYMER PREPRINTS, vol. 39, no. 2, 1998, pages 598-599, XP000942836 examples ACEBTM, ACSTTM ---	1-26
X	JULIAN DAO ET AL.: "A Versatile and Efficient Synthesis of Alkoxyamine LFR Initiators via Manganese Based Asymmetric Epoxidation Catalysts" JOURNAL OF POLYMER SCIENCE: PART A : POLYMER CHEMISTRY, vol. 36, no. 12, 1998, pages 2161-2167, XP000942794 examples 7E,,7I,,7J,,7N --- -/--	1-26

INTERNATIONAL SEARCH REPORT

International Application No
PCT/JP 00/05899

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DRULINER, J.D.: "Polymerisation of Acrylates and Methacrylates to make Homopolymers and Block Copolymers Initiated by N-Alkoxyphthalimides and Succinimides" JOURNAL OF PHYSICAL ORGANIC CHEMISTRY, vol. 8, no. 4, 1995, pages 316-324, XP000942732 table 1, run 14 table 5, runs 18, 19 ---	1-26
P,L, X	WO 99 46261 A (FUSO FRANCESCO ;CIBA SC HOLDING AG (CH); WUNDERLICH WIEBKE (DE); R) 16 September 1999 (1999-09-16) claim 1 ---	1-26
P,L, X	GB 2 342 649 A (CIBA SC HOLDING AG) 19 April 2000 (2000-04-19) claim 1 ---	1-26
P,X	TOYOJI KAKUCHI AND NAOYA SUGIMOTO: "Reversed-Type Micelle Formation Property of End-Glycosylated Polystyrene" POLYMER PREPRINTS, vol. 41, no. 1, 2000, pages 938-939, XP000942838 examples 1A-1G -----	1-26

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT, 97/005899

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5627248 A	06-05-1997	US 5677388 A	14-10-1997
US 5677388 A	14-10-1997	US 5627248 A	06-05-1997
WO 9946261 A	16-09-1999	AU 1863699 A	23-09-1999
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		BR 9900977 A	21-03-2000
		CN 1228424 A	15-09-1999
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		NL 1011493 C	28-10-1999
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		FR 2784684 A	21-04-2000
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		NL 1013259 C	21-11-2000
		NL 1013259 A	18-04-2000
		SE 9903593 A	17-04-2000

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C07D 211/94, C08F 4/00

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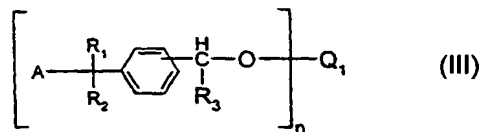
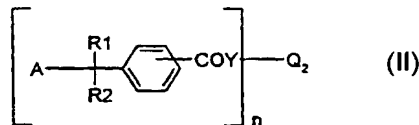
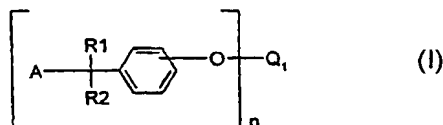
(74) Common Representative: CIBA SPECIALTY CHEMI-
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patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE,
IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG,
CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: MONO AND MULTIFUNCTIONAL ALKOXYAMINES FOR THE PREPARATION OF FUNCTIONALIZED
MACROMERS



(57) Abstract: The invention pertains to a compound of formula (I), (II) or (III) wherein R₁ and R₂ are independently of each other hydrogen, C₁-C₁₈alkyl, C₃-C₁₈alkenyl, C₃-C₁₈alkinyl or phenyl which are unsubstituted or substituted by NO₂, halogen, amino, hydroxy, cyano, carboxy, C₁-C₄alkoxy, C₁-C₄alkylthio, C₁-C₄alkylamino or di(C₁-C₄alkyl)amino; A is a group capable of forming a stable free nitroxyl radical A_•, which is bound via its oxygen atom to the carbon atom; Y is O, NR₃ or CHR₃-X_a, wherein X_a is O, S or NR₃; R₃ is hydrogen, C₁-C₁₈alkyl, C₃-C₁₈alkenyl, C₃-C₁₈alkinyl or phenyl which are unsubstituted or substituted by NO₂, halogen, amino, hydroxy, cyano, carboxy, C₁-C₄alkoxy, C₁-C₄alkylthio, C₁-C₄alkylamino or di(C₁-C₄alkyl)amino; Q₁ is an organic or inorganic radical, derived from a compound having at least one functional group being capable of reacting with a hydroxy group; Q₂ is an organic radical derived from a mono or polyfunctional alcohol, mono or polyfunctional aminoalcohol, mono or polyfunctional amine mono or polyfunctional mercaptane, mono or polyfunctional phenol or mono or polyfunctional thiophenol; and n is a number from 1 to 20; with the provision that in formula (I) if n is 1, Q₁ is not (a), or if n is 2, R₁ is H, and R₂ is -CH₂-O-tert.butyl, A is not 2,2,6,6-tetramethylpiperidine or 2,2,6,6-tetramethylpiperidine-4-carboxylic acid. Further subjects of the invention are a composition comprising above compounds and at least one ethylenically unsaturated monomer, process for polymerization and the (co)polymers obtained therefrom.



Published:

— Without international search report and to be republished upon receipt of that report.

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.